



## **ENVIRONMENTAL AND RADIO FREQUENCY SAFETY**

The licensee of WJTC is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WJTC antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

The predicted emissions of WJTC must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WJTC, which will operate on television Channel 35 (596-602 MHz), the MPE is 399.33 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) in an “uncontrolled” environment and 1,996.7  $\mu\text{W}/\text{cm}^2$  in a “controlled” environment. The proposed WJTC facility will operate with a maximum ERP of 1000 kW from an elliptically polarized directional transmitting antenna with a centerline height of 449 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WJTC facility is predicted to produce a power density at two meters above ground level of 30.098  $\mu\text{W}/\text{cm}^2$ , which is 7.54% of the FCC guideline value for an “uncontrolled” environment, and 1.508% of the FCC’s guideline value for “controlled” environments. There is one full-power FM station that is located at the WJTC site. The total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations located within the relevant proximity, is 27.88% of the limit applicable to “uncontrolled” environments, and 5.576% of the limit for “controlled” environments. (See Appendix A)

## APPENDIX A

### SUMMARY OF RADIOFREQUENCY RADIATION STUDY

WJTC

April 5, 2019

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLAR- IZATION</u>	<u>ANTENNA HEIGHT</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>WORST-CASE PREDICTED POWER DENSITY (<math>\mu\text{W}/\text{cm}^2</math>)</u>	<u>FCC UNCONTROLLED LIMIT (<math>\mu\text{W}/\text{cm}^2</math>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WJTC	DT	35	599	H & V	449	1000.000	0.300	30.098	399.33	7.54%
WPCS	FM	208	89.5	H & V	397	95.000	1.000	40.685	200.00	20.34%
<b>TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =</b>										<b>27.88%</b>

\* For television stations a very conservative vertical relative field factor of 0.3 was assumed pursuant to OET Bulletin 65.